We claim:

1. A purified mammalian dihydrooubain-like factor (Dh-OLF) having binding reactivity with antibody raised against plant-related dihydrooubain.

Sub. a1

2. The factor of claim 1 having a high pressure liquid chromatography elution pattern similar to dho.

3. The factor of claim 1 lacking substantial binding reactivity with the antibody raised to plant-derived ouabain or mammalian ouabain-like sodium pump inhibitory factor (OLF).

4. The factor of claim 1 having 10-fold lower potency than OLF and 3-fold higher potency than dho for inhibiting sodium pump activity.

5. The factor of claim 1 which is of human origin.

6. The factor of claim 1 which is of bovine origin.

7. The factor of claim 1 which is obtained by reduction of OLF.

8. A pharmaceutical composition comprising the mammalian Dh-OLF factor of claim 1 and a pharmaceutically or veterinarily acceptable carrier.

9. The composition of claim 8 in the form of a formulation selected from the group consisting of oral, parenteral, ophthalmic, slow release and enteric coating formulations.

10. A method of prophylactically or therapeutically treating a condition associated with higher than normal sodium pump activity, comprising administering to a subject in need of the treatment an effective amount of the composition of claim 8.

11. The method of claim 10 wherein the composition is administered parenterally.

12. The method of claim 10 wherein the composition is administered orally.

13. The method of claim 10 wherein the composition is administered in an amount of about 1 μg/kg to about 1.5 mg/kg body weight.

14. The method of claim 11 wherein the subject is human.

15. The method of claim 11 wherein the disease or condition is heart disease, and the composition is administered in an effective amount.

16. The method of claim 16 wherein the heart disease is congestive heart failure.

17. The method of claim 11 where in the disease or condition is hypertension, and the composition is administered in an effective amount.

18. The method of claim 17 wherein the hypertension is selected from the group consisting of essential hypertension, thyroidism-induced hypertension, and pregnancy-induced or pregnancy-associated hypertension.

19. The method of claim 10 wherein the disease or condition is cataracts, and the composition is administered in an effective amount.

20. The method of claim 10 wherein the disease or condition is Alzheimer's disease, and the composition is administered in an effective amount.

21. A binding agent having affinity for the factor of claim 1.

22. The binding agent of claim 21 selected from the group consisting of polyclonal

antibodies, monoclonal antibodies, F_v fragments and aptomers.

23. A pharmaceutic composition comprising the binding agent of claim 22 and a pharmaceutically or veterinarily acceptable carrier.

24. A method of prophylactically or therapeutically treating a condition associated with higher than normal OLF or DhOLF levels comprising administering to a subject in need of the treatment an effective amount of the composition of claim 23.

25. The method of claim 24, wherein the antibody is administered in an amount of about 0.1 to about 1000 μmol/kg body weight.

26. The method of claim 24 wherein the subject is human.

27. A quantitative method of detecting Dh-OLF in an animal sample, comprising

obtaining a test sample suspected of comprising Dh-OLF analyte;

contacting the test sample with a solid substrate-bound first binding agent having specificity for Dh-OLF or for dho isomer mixture but not for OLF, under conditions effective for said first binding agent to bind any analyte present in the sample and form binding agent-analyte complex(es);

contacting the substrate-bound first binding agent-analyte complex(es) with a labeled second binding agent specific to the first binding agent, under conditions effective to bind to any substrate-bound analyte-first agent to form a solid substrate-bound analyte-anti-Dh-OLF binding agent- second-binding agent or analyte-anti-dho binding agent-second binding agent labeled complex(es);

detecting the amount of solid substrate-bound label; and

comparing that amount of complex(es) to the amount of complex(es) obtained for a known amount of a standard Dh-OLF or dho under the same or similar conditions.

28. The method of claim 26 wherein the binding agent comprises anti-Dh-OLF, anti-

dho antibody, fragments or aptomers.

29. The method of claim 26 wherein the subject is human.

30. A quantitative method of detecting Dh-OLF in an animal sample comprising isolating Dh-OLF by HPLC and comparing the height of the peak characteristic of Dh-OLF to that of a known amount of dho-B separated in the same or similar manner.

31. The method of claim 30 wherein the sample is taken from a human.

32. A purified plant-related dho isomer.

33. The isomer of claim 32 that is dho-A.

34. The isomer of claim 32 that is dho-B.